**WHAT IS CLAIMED IS:**

1. A composition comprising a purified antibody, or antigen-binding fragment or immunoconjugate thereof, wherein said antibody binds to phosphatidylserine and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidylserine.

2. The composition of claim 1, wherein said antibody further binds to phosphatidic acid and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidic acid.

3. The composition of claim 1, wherein said antibody further binds to phosphatidylinositol and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidylinositol.

4. The composition of claim 1, wherein said antibody further binds to phosphatidylglycerol and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidylglycerol.

5. The composition of claim 1, wherein said antibody further binds to cardiolipin and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to cardiolipin.

6. The composition of claim 1, wherein said antibody further binds to phosphatidic acid, phosphatidylinositol, phosphatidylglycerol and cardiolipin and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to each of phosphatidic acid, phosphatidylinositol, phosphatidylglycerol and cardiolipin.

7. The composition of claim 1, wherein said antibody further binds to phosphatidylethanolamine.

8. The composition of claim 7, wherein said antibody further binds to phosphatidylethanolamine and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidylethanolamine.

9. The composition of claim 1, wherein said antibody has substantially the same phospholipid binding profile as the monoclonal antibody 3G4 (ATCC PTA 4545) as set forth in Table 4.

10. The composition of claim 1, wherein said antibody has an affinity for phosphatidylserine of at least equal to the affinity of the monoclonal antibody 3G4 (ATCC PTA 4545) for phosphatidylserine as set forth in Table 3.

11. The composition of claim 1, wherein said antibody has substantially the same phospholipid binding profile as the monoclonal antibody 3G4 (ATCC PTA 4545), as set forth in Table 4, and has an affinity for phosphatidylserine of at least equal to the affinity of the monoclonal antibody 3G4 (ATCC PTA 4545) for phosphatidylserine, as set forth in Table 3.

12. The composition of claim 1, wherein said antibody is a monoclonal antibody.

13. The composition of claim 1, wherein said antibody is an IgG antibody.

14. The composition of claim 1, wherein said antibody is an antigen-binding fragment of an antibody.

15. The composition of claim 14, wherein said antibody is an scFv, Fv, Fab', Fab, diabody, linear antibody or $F(ab')_2$ antigen-binding fragment of an antibody.

16. The composition of claim 14, wherein said antibody is a CDR, univalent fragment, camelized or single domain antibody.

17. The composition of claim 1, wherein said antibody is a human, humanized or part-human antibody or antigen-binding fragment thereof.

18. The composition of claim 17, wherein said antibody comprises an antigen-binding region of said antibody operatively attached to a human antibody framework or constant region.

19. The composition of claim 1, wherein said antibody is a chimeric antibody.

20. The composition of claim 1, wherein said antibody is a bispecific antibody.

21. The composition of claim 1, wherein said antibody is a recombinant antibody.

22. The composition of claim 1, wherein said antibody is an engineered antibody.

23. The composition of claim 1, wherein said antibody is prepared by a process comprising immunizing an animal with activated endothelial cells and selecting from the immunized animal an antibody that binds to phosphatidylserine and effectively competes with the monoclonal antibody 3G4 (ATCC PTA 4545) for binding to phosphatidylserine.

24. The composition of claim 1, wherein said antibody comprises at least a first variable region that includes an amino acid sequence region having the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4.

25. The composition of claim 1, wherein said antibody is the monoclonal antibody 3G4 (ATCC PTA 4545).

26. The composition of any one of claims 1 through 25, wherein said antibody is operatively attached to at least a first biological agent.

27. The composition of claim 26, wherein said antibody is operatively attached to at least a first agent that cleaves a substantially inactive prodrug to release a substantially active drug.

28. The composition of claim 27, wherein said antibody is operatively attached to arylsulfatase, serratia protease, thermolysin, subtilisin, a carboxypeptidase, a cathepsin, D-alanylcarboxypeptidase, β-galactosidase, neuraminidase, β-lactamase, penicillin amidase or cytosine deaminase that cleaves a substantially inactive prodrug to release a substantially active drug.

29. The composition of claim 27, wherein said antibody is operatively attached to alkaline phosphatase that cleaves a substantially inactive phosphate-prodrug to release a substantially active drug.

30. The composition of claim 26, wherein said antibody is operatively attached to at least a first therapeutic or diagnostic agent.

31. The composition of claim 30, wherein said antibody is operatively attached to at least a first therapeutic agent.

32. The composition of claim 31, wherein said antibody is operatively attached to at least a first chemotherapeutic agent, radiotherapeutic agent, anti-angiogenic agent, apoptosis-inducing agent, steroid, antimetabolite, anthracycline, vinca alkaloid, anti-tubulin drug, antibiotic, cytokine, alkylating agent or coagulant.

33. The composition of claim 32, wherein said antibody is operatively attached to TNFα, IL-12 or LEC.

34. The composition of claim 32, wherein said antibody is operatively attached to a cytotoxic, cytostatic or anticellular agent capable of killing or suppressing the growth or cell division of endothelial cells.

35. The composition of claim 34, wherein said antibody is operatively attached to a plant-, fungus- or bacteria-derived toxin.

36. The composition of claim 35, wherein said antibody is operatively attached to an A chain toxin, a ribosome inactivating protein, α-sarcin, gelonin, aspergillin, restrictocin, a ribonuclease, an epipodophyllotoxin, diphtheria toxin or *Pseudomonas* exotoxin.

37. The composition of claim 36, wherein said antibody is operatively attached to ricin A chain or deglycosylated ricin A chain.

38. The composition of claim 32, wherein said antibody is operatively attached to an anti-angiogenic agent.

39. The composition of claim 32, wherein said antibody is operatively attached to an anti-tubulin drug.

40. The composition of claim 39, wherein said antibody is operatively attached to an anti-tubulin drug selected from the group consisting of colchicine, taxol, vinblastine, vincristine, vindescine and a combretastatin.

41. The composition of claim 32, wherein said antibody is operatively attached to a coagulant.

42. The composition of claim 30, wherein said antibody is operatively attached to a diagnostic, imaging or detectable agent.

43. The composition of claim 42, wherein said antibody is operatively attached to an X-ray detectable compound, a radioactive ion or a nuclear magnetic spin-resonance isotope.

44. The composition of claim 43, wherein said antibody is operatively attached to:

(a) the X-ray detectable compound bismuth (III), gold (III), lanthanum (III) or lead (II);

(b) the detectable radioactive ion copper$^{67}$, gallium$^{67}$, gallium$^{68}$, indium$^{111}$, indium$^{113}$, iodine$^{123}$, iodine$^{125}$, iodine$^{131}$, mercury$^{197}$, mercury$^{203}$, rhenium$^{186}$, rhenium$^{188}$, rubidium$^{97}$, rubidium$^{103}$, technetium$^{99m}$ or yttrium$^{90}$; or

(c) the detectable nuclear magnetic spin-resonance isotope cobalt (II), copper (II), chromium (III), dysprosium (III), erbium (III), gadolinium (III), holmium (III), iron (II), iron (III), manganese (II), neodymium (III), nickel (II), samarium (III), terbium (III), vanadium (II) or ytterbium (III).

45. The composition of claim 42, wherein said antibody is operatively attached to biotin, avidin or to an enzyme that generates a colored product upon contact with a chromogenic substrate.

46. The composition of claim 31, wherein said antibody is operatively attached to at least a first anti-viral agent.

47. The composition of claim 46, wherein said antibody is operatively attached to an anti-viral agent from Table G.

48. The composition of claim 46, wherein said antibody is operatively attached to cidofovir or AZT.

49. The composition of claim 26, wherein said antibody is operatively attached to said biological agent as a fusion protein prepared by expressing a recombinant vector that comprises, in the same reading frame, a DNA segment encoding said antibody operatively linked to a DNA segment encoding said biological agent.

50. The composition of claim 26, wherein said antibody is operatively attached to said biological agent via a biologically releasable bond or selectively cleavable linker.

51. The composition of claim 1, wherein said composition is a pharmaceutically acceptable composition that further comprises a pharmaceutically acceptable carrier.

52. The composition of claim 51, wherein said pharmaceutically acceptable composition is formulated for parenteral administration.

53. The composition of claim 51, wherein said pharmaceutically acceptable composition is a liposomal formulation.

54. The composition of claim 53, wherein said pharmaceutically acceptable composition is a stealthed or PEGylated liposomal formulation.

55. The composition of claim 53, wherein said pharmaceutically acceptable composition is a stealthed or PEGylated liposomal formulation that is coated with said antibody.

56. The composition of claim 1, wherein said composition further comprises a second biological agent.

57. The composition of claim 56, wherein said composition further comprises a second therapeutic agent.

58. The composition of claim 57, wherein said second therapeutic agent is an anti-angiogenic agent.

59. The composition of claim 57, wherein said second therapeutic agent is an anti-cancer agent.

60. The composition of claim 59, wherein said anti-cancer agent is a compound that interferes with DNA replication, mitosis or chromosomal segregation.

61. The composition of claim 59, wherein said anti-cancer agent is a chemotherapeutic agent, radiotherapeutic agent, anti-angiogenic agent, apoptosis-inducing agent, anti-tubulin drug or a tumor-targeted chemotherapeutic agent, radiotherapeutic agent, anti-angiogenic agent, apoptosis-inducing agent or anti-tubulin drug.

62. The composition of claim 61, wherein said anti-cancer agent is cytosine arabinoside, methotrexate, aminopterin, demecolcine, mithramycin, chlorambucil, melphalan, daunorubicin, doxorubicin, verapamil, tamoxifen, taxol, vincristine, vinblastine, etoposide, 5-fluorouracil (5FU), camptothecin, actinomycin-D, mitomycin C, cisplatin, bleomycin, a combretastatin or cyclophosphamide.

63. The composition of claim 61, wherein said anti-cancer agent is docetaxel.

64. The composition of claim 61, wherein said anti-cancer agent is an anti-tubulin drug, a tumor-targeted anti-tubulin drug or a compound that interferes with tubulin activity.

65. The composition of claim 61, wherein said anti-cancer agent is a targeting agent-therapeutic agent construct comprising a therapeutic agent operatively linked to a targeting region that binds to an accessible component of a tumor cell or tumor stroma or to a surface-expressed, surface-accessible, surface-localized, cytokine-inducible or coagulant-inducible component of tumor vasculature or intratumoral vasculature.

66. The composition of claim 59, wherein said anti-cancer agent is dispersed within a liposomal formulation.

67. The composition of claim 59, wherein said anti-cancer agent is dispersed within a stealthed or PEGylated liposomal formulation that is coated with said antibody.

68. The composition of claim 57, wherein said second therapeutic agent is an anti-viral agent.

69. The composition of claim 68, wherein said anti-viral agent is an anti-viral agent selected from Table G.

70. The composition of claim 68, wherein said anti-viral agent is cidofovir or AZT.

71. A composition comprising a substantially cell impermeant duramycin derivative, comprising a duramycin peptide operatively attached to a cell impermeant group.

72. The composition of claim 71, wherein said duramycin peptide is operatively attached to a group that bears a positive charge at physiological pH.

73. The composition of claim 71, wherein said duramycin peptide is operatively attached to a group that bears a negative charge at physiological pH.

74. The composition of claim 71, wherein said duramycin peptide is operatively attached to biotin, or to a sulfate, sulfonate, phosphate, carboxyl, phenolic, quaternary ammonium ion or amine group.

75. The composition of claim 71, wherein said duramycin peptide is operatively attached to a sugar, oligo- or polysaccharide, amino acid, peptide, polypeptide or a polyalcohol group.

76. The composition of claim 71, wherein said duramycin peptide is operatively attached to a protein.

77. The composition of claim 71, wherein said duramycin peptide is operatively attached to an inert carrier protein.

78. The composition of claim 71, wherein duramycin peptide is operatively attached to neutravidin, streptavidin, albumin or an inert immunoglobulin carrier protein.

79. The composition of claim 71, wherein said duramycin peptide is operatively attached to a targeting protein, antibody, or antigen binding region thereof, that binds to a tumor cell, tumor vasculature or tumor stroma.

80. The composition of claim 71, said substantially cell impermeant duramycin derivative is a substantially cell impermeant duramycin derivative as set forth in any one of FIG. 13A through FIG. 13O.

81. A composition comprising a duramycin peptide operatively attached to at least a first anti-viral agent.

82. The composition of claim 81, wherein said duramycin peptide is operatively attached to at least a first anti-viral agent selected from Table G.

83. The composition of claim 81, wherein said duramycin peptide is operatively attached to cidofovir or AZT.

84. A method for inhibiting angiogenesis, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 1.

85. A method for treating cancer, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 1.

86. A method for treating cancer, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 31.

87. A method for treating a viral infection, comprising administering to an animal in need thereof a biologically effective amount of composition comprising an antibody that binds to phosphatidylserine or phosphatidylethanolamine.

88. A method for treating a viral infection, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 1.

89. A method for treating a viral infection, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 68.

90. A method for treating cancer, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 71.

91. A method for treating a viral infection, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 71.

92. A method for treating a viral infection, comprising administering to an animal in need thereof a biologically effective amount of the composition of claim 81.